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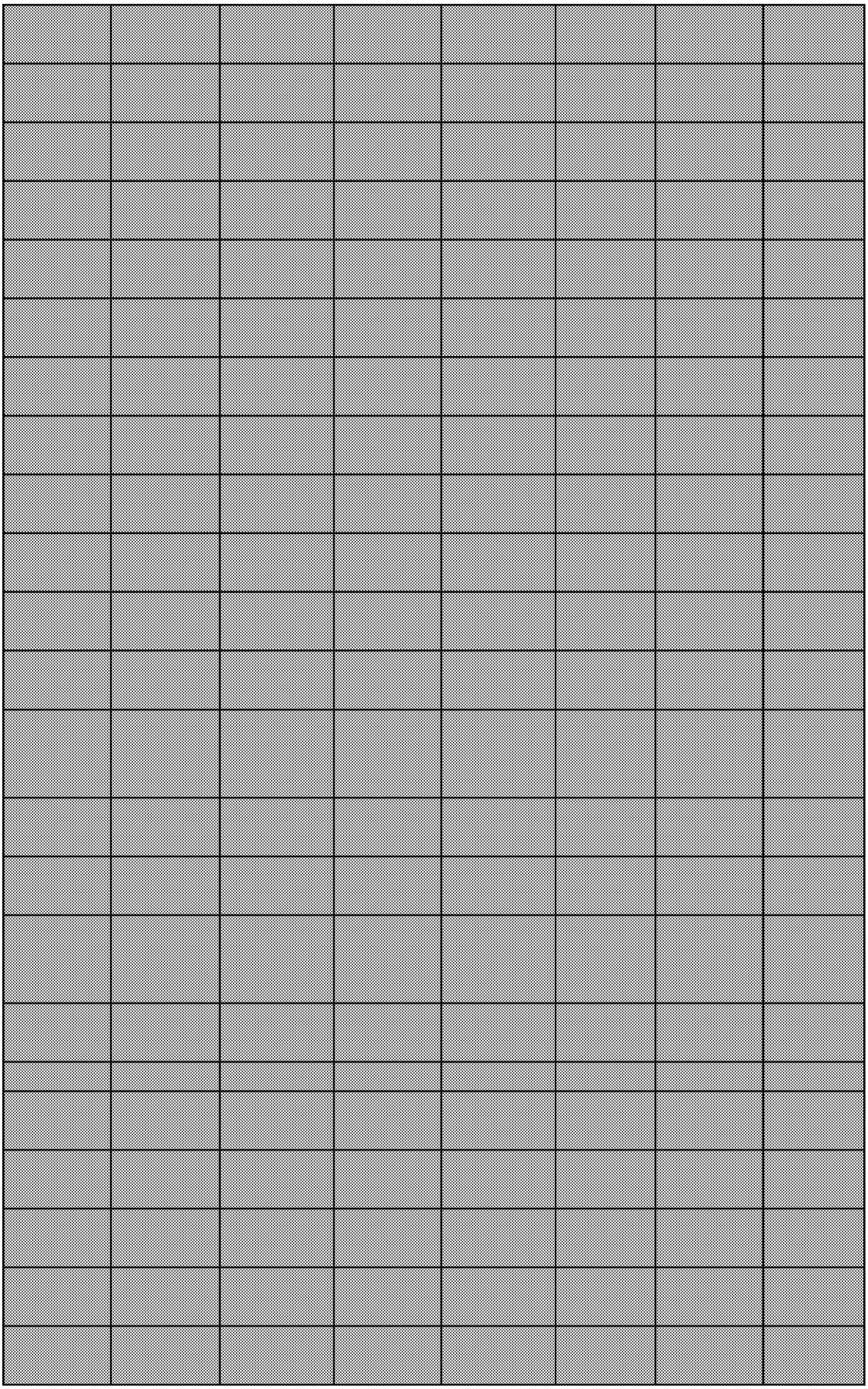

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Increased protection from reactive oxygen species (ROS) is believed to increase life span. However, it has not been clearl
Life span was measured by counting budding cycles in cohorts of yeast cells treated with erythromycin, paraquat, or gene
We used both selection and single-gene mutagenesis studies to identify the mechanisms underlying the genetic control c
Cumulative oxidative damages to cell constituents are considered to contribute to aging and age-related diseases. The en
Numerous studies have shown that the lifespan can be extended by caloric restriction or by altering the growth hormone
Oxidative damage is thought to be a major causal factor of aging, and is implicated in several human pathologies such as
Oxidative stress has been widely implicated as an important factor in the aging process. Because mitochondrial respiratic
Oxidative damage shortens the life span of the nematode Caenorhabditis elegans (C. elegans), even in an age-1 mutant t
The goal of this study was to test the hypothesis that the rate of mitochondrial oxidant production governs the aging proc
Several lines of evidence indicate that selenoproteins mainly act as cellular antioxidants. Here, we test this idea comparin
Recently, we identified a set of five genes constituting the peroxiredoxin gene family in Drosophila melanogaster [Radyu
During the earliest stages of Caenorhabditis elegans embryogenesis, the transcription factor SKN-1 initiates developmen
Genetic analyses of lifespan in model animals have revealed that extended lifespans are closely associated to increased r
Iron and oxygen are essential but potentially toxic constituents of most organisms, and their transport is meticulously reg
The mitochondrial succinate dehydrogenase (SDH) is a tetrameric iron-sulfur flavoprotein of the Krebs cycle and of the re
The genetic basis for aging is being intensely investigated in a variety of model systems. Much of the focus in Drosophila
To date, more than 40 genes have been identified in the nematode Caenorhabditis elegans, which, when mutated, lead t
The lifespan of Caenorhabditis elegans can be extended by the administration of synthetic superoxide dismutase/ catalas
A null mutation for the Sod2 gene, Sod2n283, was obtained in Drosophila melanogaster. Homozygous Sod2 null (Sodn28
Heat shock proteins (Hsp) are involved in protein folding, transport and stress resistance. Studies reporting an increased
The relationship between oxidative stress and longevity is a matter of concern in various organisms. We isolated mutant
L-glutamate is both the major brain excitatory neurotransmitter and a potent neurotoxin in mammals. Glutamate excitot

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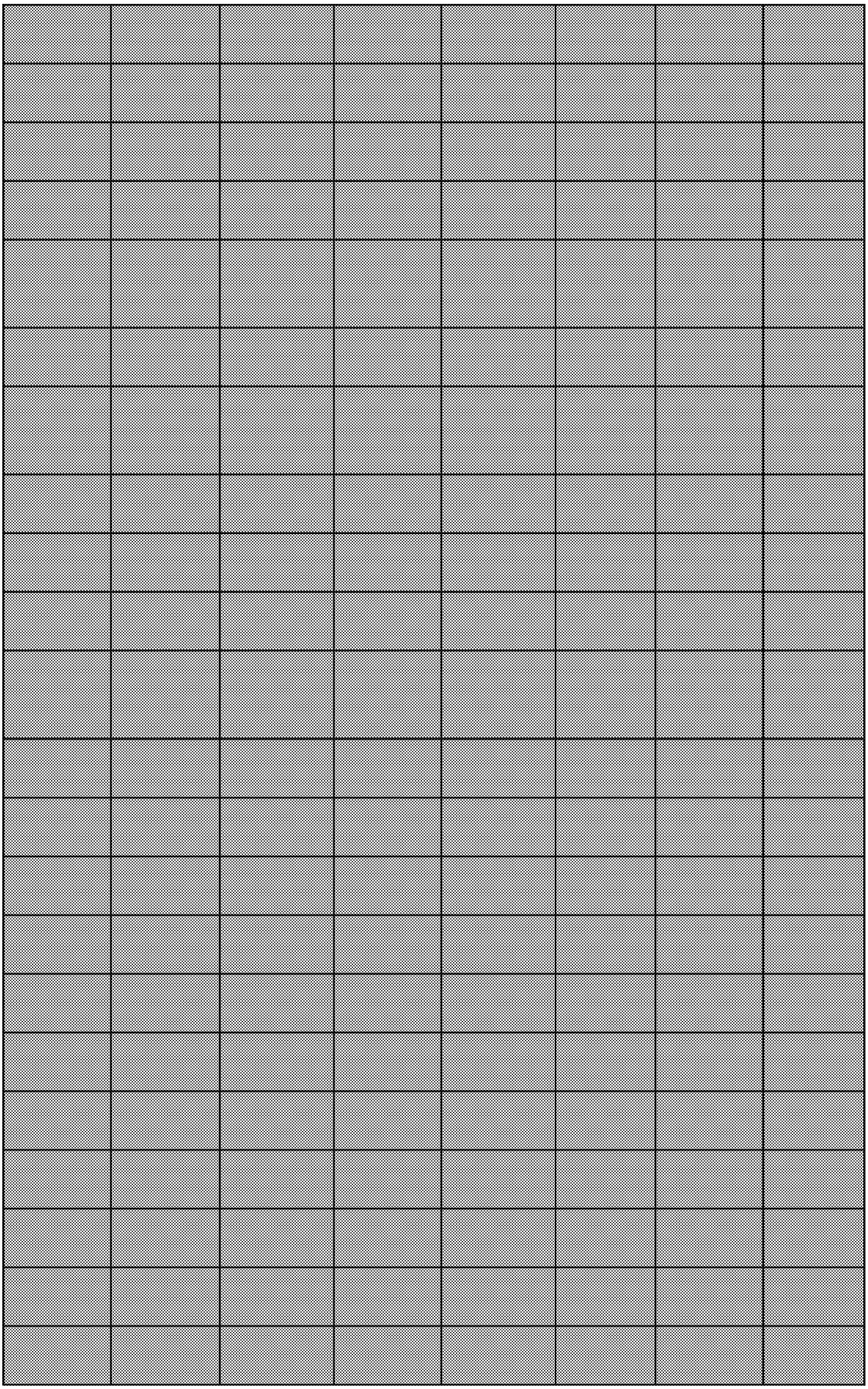

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According to the oxidative damage theory a primary cause of aging is the accrual of molecular damage from reactive oxy
BACKGROUND: During their life, multicellular organisms are challenged with oxidative stress. It is generated by several r
The replicative lifespan of Saccharomyces cerevisiae is determined by both genetic and environmental factors. Many of t
Drosophila hsp22 is a member of the small heat shock proteins family (shsps). The hsp22 is expressed in a tissue-general
Pre-mRNA adenosine deaminase (ADAR) is involved in many physiological processes by either directly converting adenos
Previous studies have shown that dermal fibroblast cell lines derived from young adult mice of the long-lived Snell dwarf
Inactivation of insulin-like growth factor I (IGF-I) signalling pathways have been shown to extend lifespans in various low
Mutations in the mev-1 and gas-1 genes of the nematode Caenorhabditis elegans render animals hypersensitive to oxyge
Much attention has focused on the insulin-like signaling pathway in Caenorhabditis elegans because of its pivotal role in
Proton-translocating mitochondrial nicotinamide nucleotide transhydrogenase (NNT) was investigated regarding its phys
Behaviors modulated by dopamine appear to be conserved across species. In the model system Drosophila melanogaste
The oxidative stress hypothesis predicts that the accumulation of oxidative damage to a variety of macromolecules is the
The oxidative stress hypothesis of aging predicts that a reduction in the generation of mitochondrial reactive oxygen spe
Calorie restriction (CR) extends the life span of various species through mechanisms that are as yet unclear. Recently, we
The hypothesis that overexpression of glutamate-cysteine ligase (GCL), which catalyzes the rate-limiting reaction in de n
Caenorhabditis elegans expresses a glutathione transferase (GST) belonging to the Pi class, for which we propose the nar
klotho is an aging suppressor gene and extends life span when overexpressed in mice. Klotho protein was recently demo
To analyze the relationship between resistance to oxidative stress and longevity, we isolated three novel paraquat-resist
Electrophilic stress caused by lipid peroxidation products such as 4-hydroxynonenal (4-HNE) and/or related compounds r
Deregulation of energy metabolism by external interventions or mutations in metabolic genes can extend lifespan in a w
We used the fruit fly Drosophila melanogaster to test the effects of feeding the superoxide dismutase (SOD) mimetic dru

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